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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/757,847

01/16/2004

Masahiko Arai

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5086

7590 02/28/2008
McDermott, Will & Emery
600, 13th Street
Washington, DC 20005-3096

EXAMINER

YEE, DEBORAH

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

02/28/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/757,847	ARAI ET AL.	
	Examiner	Art Unit	
	Deborah Yee	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,8 and 10-14 is/are pending in the application.
- 4a) Of the above claim(s) 10-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 10 to 14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Election was made **without** traverse in the reply filed on September 15, 2006.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3 and 8 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (Japanese patent 402197550) alone or in view of Ishii et al. (European patent application 0639691) or Hamada et al. (Japanese patent 7-233450) for the reasons set forth in the office action dated September 11, 2007.
4. Claims 1, 3 and 8 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Hamada et al. (7-233450) alone or in view of Ishii et al. (European patent application 0639691) for the reasons state in office action dated September 11, 2007.

Response to Arguments

5. Applicant's arguments filed December 11, 2007 have been fully considered but they are not persuasive.

Tanaka in view of Ishii or Hamada

6. Applicant argued that Tanaka et al. does not teach the steel of the present invention since the claimed Ni and Co requirement in accordance with figure 2 is not met. Applicant pointed out that specimen 11 in table 1 on page 284 of Tanaka et al. contains 1.35%Ni and 1.05%Co and when calculated, $(\text{Ni-Co})^2 = (1.35-1.05)^2 = (0.34)^2 = 0.12$. This value does not exceed 1.88, however, the $(\text{Ni-Co})^2$ value is not within points A and B of Figure 2. It is the Examiner's position that even though prior art does not teach the $(\text{Ni-Co})^2$ value within points A and B of Figure 2, such would not be a patentable difference because limitation does not appear to critical or representative of present invention. Note that the majority of steel examples representative of Applicant's invention do not require the value of $(\text{Ni-Co})^2$ within points A and B of Figure 2. See steel examples 8-13 in table 1 on page 19 and examples 18 and 19 in table 3 on page 24 of Applicant's specification. Hence the limitation between points A and B would merely be a difference in numerical proportion without any attendant unexpected results, which would not patentably distinguish claims over prior art.

7. Applicant further argued that Tanaka et al. does not teach or suggest adding Nb to the steel composition of specimen 11. It is the Examiner's position that it would be obvious to incorporate Nb since a broad range of 0.02 to 0.10% Nb is taught by Tanaka et al..

Hamada in view of Ishii

8. Applicant argued that Hamada et al. does not teach or suggest steel having $(\text{Ni-Co})^2$ value within points A and B of Figure 2, as evident by specimen 31. It is the Examiner's position that such limitation does not appear to be critical and hence would not be a patentable distinction. Moreover, present invention does not appear to require $(\text{Ni-Co})^2$ value to be within

points A and B but rather at a value no higher than the straight line drawn based on points A and B, as evident by the majority of disclosed steel examples in Applicant's specification.

9. It was submitted that specimen 31 does not contain Nb. It is the Examiner's position that it would be obvious to incorporate Nb since a broad range of 0.05 to 3.0% Nb is taught by Hamada et al.

10. Applicant argued that in the heat resistant steel of Hamada et al., Cu is positively added in order to make stable an austenite phase of the steel whereby restraining occurrence of a delta-ferrite phase. In the present invention, however, Cu is an impurity element which should be as small as possible because Cu enhances brittleness at gas turbine operating temperatures. It is the Examiner's position that the English abstract of Hamada et al discloses steel containing "0.01 to 4.0% of one or more kinds among Ni, Cu and Co". Hence Cu is an optional element that does not need to be present. Moreover if Cu is present, it would within a wt% range 0.01 to 4.0%, which would overlap and suggest Applicant's Cu range of not more than 0.5% recited by claim 8.

Hence claimed alloy would not patentably distinguish over prior art alloy.

11. In regard to Ishii et al., it is merely a secondary teaching to show that Re and/or B are conventional additives for analogous steel alloys to further enhance toughness and hardenability.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 1793

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 571-272-1253. The examiner can normally be reached on monday-friday 6:00 am-2:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Deborah Yee/
Primary Examiner
Art Unit 1793

/DY/

Application/Control Number: 10/757,847
Art Unit: 1793

Page 6